

# MGV srl Ventilatori Industriali

## INSTRUCTIONS FOR THE USE OF CENTRIFUGAL FANS

These instructions refer to all series fans. All fans are balanced and checked before shipping. If there are any signs of damage before or after opening the packaging, it is necessary to notify the carrier and return the goods to our office. Do not use or repair damaged appliances. Our company cannot be held responsible for damage occurring during transport.

**THE PURPOSE OF THIS MANUAL IS TO ALLOW A SAFE INSTALLATION AND USE OF OUR MACHINES AND THEREFORE THE INSTRUCTIONS SHOWN HEREIN MUST BE FOLLOWED AND APPLIED IN A COMPLETE AND MANDATORY WAY.**

The maintenance and installation of the fans must only be carried out by properly trained and experienced personnel.

When following the manufacturer's installation instructions, compliance with all other applicable directives, laws, codes and standards must be ensured.

**All the centrifugal fans we produce** are machines suitable for the ventilation of environments with temperatures between -20 and + 80 ° C (150 ° C for the high temperature versions), + 300 ° C for the transmission fans.

They are machines designed for operation with ducted outlets; when access to the outlets (rotating moving parts) is not channeled or protected by other means, it is necessary to install a protection net according to UNI 9219-8 (accessory supplied on request). Never access the rotating parts or disassemble the safety guards without making sure that the fan is not and cannot be electrically powered and that the impeller is stationary.

### TRANSPORT AND STORAGE

The fans are supplied without packaging and due to their weight from 20 to 600Kg they must be handled by one or more people or by lifting equipment.

### INSTALLATION

During unpacking and unpacking, do not grab the impeller and net. To move the machine, use personal protective equipment (gloves, etc.) of the type according to the 686/89 standard and following.

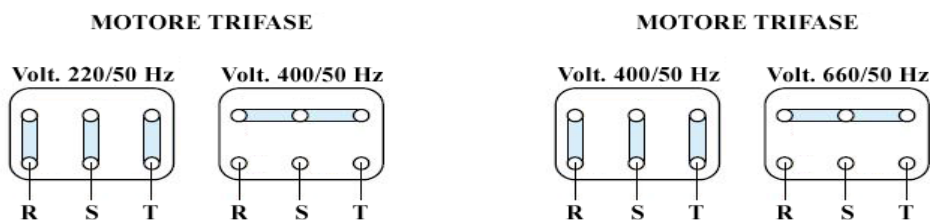
Make sure that:

- 1) the impeller has not undergone shocks or deformations during transport;
- 2) the impeller is well fixed to its rotation shaft;
- 3) no foreign body interferes with the impeller;
- 4) the impeller rotates freely on its axis. For installations in cold areas and during the winter, avoid starting the impeller with the formation of ice on the blades;
- 5) all screws are well tightened.

### ASSEMBLY:

Firmly fix the machine using bolts or screws and expansion plugs of suitable diameter to the holes indicated in the four corners of the base. Check that the electrical voltage data shown on the motor plate correspond to the data on the connection line. The connection between the power supply cable and the motor terminals must be made according to the diagram contained in the terminal board or printed on a plate placed on the electric motor (fig. 1). Once the connection has been made and after carefully tightening the terminal nuts to ensure perfect contact, close the box lid with its gasket. Inside the terminal board there is the terminal for the earth connection of the appliance, to be carried out according to the regulations in force. All the motors of our fans are suitable for direct starting at full voltage or in star (delta for powers greater than 5.5 Kw). For the Eex (ADPE) series the electrical system must be carried out according to the standard: CEI 64-2.

**Fig. 1**



**Attention:** indicative diagrams, however refer to the diagram shown in the motor terminal board.

## PUT IN USE

Once the electrical connection is complete, start the fan checking that:

- 1) the direction of rotation is correct. The correct direction of rotation of the fan is indicated by a special arrow. The electrical connection of the motor must be carried out adequately to obtain the desired direction of rotation;
- 2) the amperage values are within those of the plate.

If any problems arise, stop immediately. In the first hours of operation, check the above points and tightenings several times. In transmission fans you will notice an increase in the temperature on the bearings, this temperature will decrease over time.

## ADJUSTMENT

If the fan is used together with a voltage / speed regulator, make sure that the flow rate of the latter is adequate for the current absorbed by the fan motor.

## MAINTENANCE AND REPAIR

It is advisable to periodically inspect the cleanliness of the electric motor, the impeller and in general all the parts making up the fan. The frequency of maintenance for cleaning will depend on the actual operating conditions and this can be determined with periodic inspections. **Before any intervention, make sure that the electric motor is disconnected and safe.** Check that all the fan bolts and nuts are properly tightened and in particular those of the impeller hub and those that secure the electric motor to the support. It is recommended to perform this operation after the first 100 hours of operation; thereafter at regular intervals of approximately 6 months of continuous operation. **Periodically remove deposits from the impeller blades.** It should be remembered that any incrustations or other things on the impeller blades can cause, in addition to a decrease in the aerodynamic efficiency of the machine, also the imbalance of the same, with consequent damage to the bearings or breakage of the same. Possible deposits of dust or encrustations on the electric motor can reduce the dispersion of heat and its cooling and therefore seriously endanger its proper functioning with possible fires. **In order to avoid all this, the Installer is obliged to install vibration sensors which, in the event of danger, interrupt the power supply, thus stopping the fan.** Periodically check the general condition of the installation, to avoid that the formation of encrustations and blockages in the ventilation circuit require an excessive increase in aerodynamic performance and bring the fan into a "stall" condition. When the electric motor has to be reassembled on the fan after a normal maintenance or repair operation, proceed with the utmost care and make sure that every part of the machine is in perfect condition. An aggressive environment can cause corrosion to the fan components if they have not been previously treated with anti-corrosion protection. During periodic maintenance of the fan, check the state of conservation and corrosion of the bolts and of all the components of the appliance. For any type of maintenance that does not fall within the normal simple cleaning routines, it is advisable to remove the entire fan from its normal installation setting and operate with suitable equipment to avoid damaging the various mechanical parts, both during the disassembly and assembly phases. The electric motors supplied with the series are equipped with double shielded radial ball bearings, as well as the transmission monoblocks. They are lubricated for life and no relubrication is required for the expected life of the bearing. The indicative duration is 20,000 working hours at an ambient temperature of 40 ° C.

## CONTRAINDICATIONS

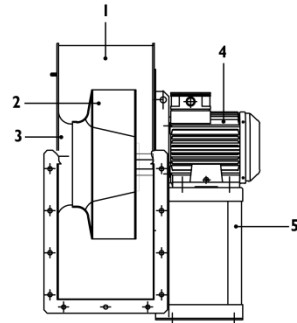
If the fan impeller should be removed after reassembly, check the direction of rotation. **If it is necessary to replace the impeller, do it only with an original one from the house.** If the electric motor needs to be replaced, pay the utmost attention to which spare part is perfectly compatible with the replaced one; in particular, the rotation speed (number of electromagnetic polarities) must be the same. A peripheral speed higher than that for which the impeller was designed and built, in addition to causing a rapid shutdown of the motor, can lead to the disintegration of the impeller itself with the possibility of detachment and throwing of parts or fragments with danger for people or what's this. At the first start-up and after every replacement or repair carried out on the electric motor, check that the current absorption is within the plate values, always indicated on the engine itself.

## ATTENTION

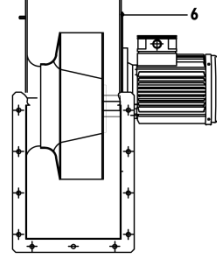
If the machine is installed at a distance from the panel and / or control point, it is mandatory to provide an omnipolar service switch in the immediate vicinity of the machine itself. All the operations contained in this "INSTRUCTIONS FOR USE" manual to be carried out on and for the installation of the machine **MUST** be carried out by a **SPECIALIZED OPERATOR**. Under penalty of forfeiture of the guarantee and the lifting of MGVSrl from any liability.

## COMPONENTS:

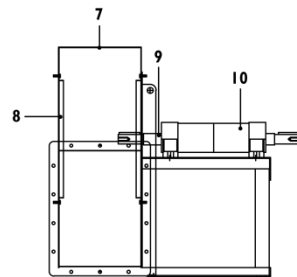
Esec. 4



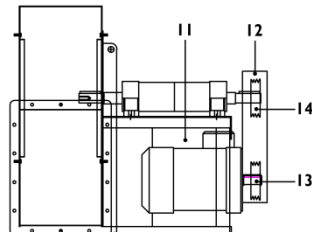
Esec. 5



Esec. I



Esec. 9



1	AUGER
2	IMPELLER
3	INLET CONE
4	ELECTRIC MOTOR B3 O B5
5	ENGINE CHAIR
6	FLANGED DISK
7	OUTPUT FLANGE
8	INPUT FLANGE
9	COOLING FAN
10	MONOBLOCK
11	BELT TENSIONER
12	PROTECTION CARTER
13	PULLEY
14	BELTS



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